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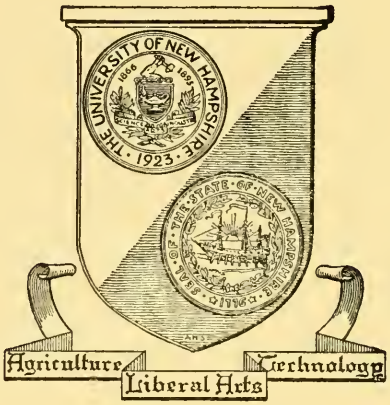


The University
of
New Hampshire

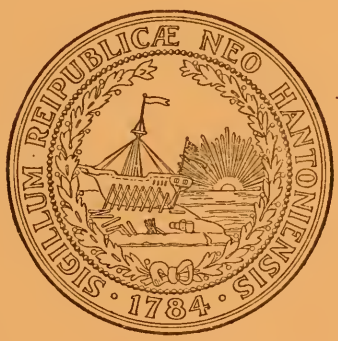
Bulletin 211 December 1923

NEW HAMPSHIRE
AGRICULTURAL EXPERIMENT STATION

DEPARTMENT OF AGRONOMY

Results of Seed Tests for 1923

MADE FOR THE STATE DEPARTMENT OF AGRICULTURE



By M. GALE EASTMAN

UNIVERSITY OF NEW HAMPSHIRE
DURHAM, N. H.
5953

RESULTS OF SEED TESTS

Made July 1, 1922 to June 30, 1923

The laboratory has completed tests on 553 samples of seed during the past year. In a majority of the cases both germination and purity determinations have been made indicating that well over 1000 separate indices to quality have been thus computed. As these tests are usually duplicated from two to five times in each instance for the purpose of arriving at a suitable average and to eliminate any possible inconsistencies, the few official figures herewith presented hardly express the scope of the work.

This bulletin shows the records of tests based on what we choose to call official samples. They represent the seeds collected by the State Department of Agriculture and tested by us for conformity with their printed guarantees.

Persons interested in the State Seed Law will find it printed in last year's seed bulletin or may obtain copies by writing the State Department of Agriculture at Concord.

The seed testing regulatory work should be largely a preventative of trouble. It should keep poor or undesirable seed off the market either by assisting the conscientious vender to make sure that his product is not sold under false pretenses or by preventing the "gyp" from flooding the market with a cheaper product which he knows may be practically worthless. Our investigation of seeds is not expected to find poor seed unless such is on the market nor to make unnecessary trouble for any person or company that does a legitimate business.

Seed testing work has now been in vogue in this country as a service of insurance for the farmer against the necessary use of seed of unknown quality for some

fifty years, but it is much more recently that a large proportion of the states have established seed testing laboratories. Connecticut did some of this work as early as 1877. A laboratory was started in Washington, D. C., by the Federal Government in 1894. Since that time the work has spread rapidly among the states, while investigation and research have developed many improvements in methods of testing. In 1908 the American Association of Official Seed Analysts was formed for the purpose of standardizing methods and stimulating investigation which would lead to more uniform results. This association is a very active organization and is doing much to improve the technique of its members. The New Hampshire seed testing work was started in 1909.

Probably few people realize today some of the wilful practices which were resorted to in the days previous to the inauguration of any seed control work for the purpose of defrauding the public along this line. Old seed was sold for new, perhaps after coloring or polishing to make it look superior. Kale was sold for cabbage, trefoil for alfalfa and so on to some length. The farmer had no recourse to secure justice even if he had reason to suspect or could prove that he had been defrauded. Many times he, himself, could not recognize the deception and attributed his failures to other causes. All this was discouraging and led to no possible hope of improvement. At one time in England the collecting and killing of weed seeds to serve as adulterants was a regular commercial business. Particles of quartz were graded and colored in Europe to adulterate clover seed.

The seed testing work done by the Federal Government and by the many state laboratories backed up by suitable and continually improved legislation has done much to discourage the use of crude adulterants or the misbranding of commercial seed. There are some illegitimate practices still too prevalent, like selling the less

desirable strains of imported clovers for the use of the American farmers and the adulterating of Kentucky blue-grass with the cheaper Canada blue-grass. Some seeds get into the channels of trade which are poor due to age, improper storage, etc., but in general the farmer's interests are fairly well protected today and will continue to get better insurance as the equipment of our laboratories and methods of analyzing are perfected.

Erratum

Immediately following the publication of our last seed bulletin Messrs. Thompson and Hoague asked for exhaustive re-examinations in regard to the germination of sample No. 3929 on page 13, reported below guarantee. The duplicate sample left with Thompson and Hoague by the collector was taken over by the Commissioner of Agriculture and a portion retested by our laboratory. Tested side by side with our original sample, this duplicate showed an improvement of some 15 per cent. Probably our original sample had been subject to damage in some way either in transit or in our laboratory. No one recognizes better than the seed analyst the possibilities of error in this work, and for this reason, particularly, we leave with the vender a duplicate sealed sample and we send out advance sheets covering the reports as they will later be printed in the bulletin. Obvious errors should be called to our attention on receipt of the advance reports to eliminate the difficulty or impossibility of making changes in the bulletin. Sample before mentioned should have been marked "satisfactory." Changing the bulletin at the time the error was discovered would have been practically impossible.

SEED EXAMINATION, 1923

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4587	Alfalfa (*Grimm*) E. F. Royal, Colebrook	A	99	S	97
4332	Alfalfa (*Grimm*) John B. Varick Co., Manchester	A	98	A	85
4333	Alfalfa (*Prime*) John B. Varick Co., Manchester	A	98	A	88
4424	Alsike (*Choice C. W.*) Ayers & Jenkins, Rochester	A	95.10	A	93
4393	Alsike (*Pan Amer.*) Bell Hardware Co., Derry	A	97.5	A	90
4430	Alsike (*21250*) Berry & Shorey, Rochester	A	96.5	A	93
4557	Alsike (*XX*) Bishop & Young, Lisbon	A	94.3	A	93
4501	Alsike (*3482*) W. B. Brown, Ashland	A	96	S	90
4264	Alsike (*Pan Amer.*) Bryant & Lawrence, Tilton	A	97	A	88
4512	Alsike (*Pan Amer.*) A. F. Burtt Co., Plymouth	A	97.5	A	90
4305	Alsike (*Ace, 21266*) R. L. Costello, Portsmouth	A	95	A	85
4487	Alsike (*Choice C. W.*) W. G. Crain, Lakeport	A	95.1	S	93
4547	Alsike (*Liberty*) Edson & Kinne, Littleton	A	94.71	A	90
4548	Alsike (*XX*) Edson & Kinne, Littleton	A	94.3	S	93
4562	Alsike (*White Mountain*) N. G. English, Lisbon	A	98.5	A	92
4441	Alsike (*Pan Amer.*) Eugene C. Foss Co., Rochester	A	97	A	90
4619	Alsike (*White Mountain*) C. W. Hildreth & Son, Lebanon	A	98.5	A	92
4620	Alsike (*Pan Amer.*) C. W. Hildreth & Son, Lebanon	A	97.5	A	90
4312	Alsike (*Emerson, 2148*) Hilliard & Kimball, Exeter	A	94	A	85
4627	Alsike (*XXX*) Holbrook Grocery Co., Woodsville	A	95	A	89
4591	Alsike (*21341*) C. H. Jameson, Colebrook	A	95	A	91
4608	Alsike (*A*) Lewis Bros., Lebanon	A	99.18	S	97
4409	Alsike (*Choice.*) Manchester Hardware Co., Manchester	A	97	A	91
4410	Alsike (*Ace, 21232*) Manchester Hardware Co., Manchester	A	96.45	A	84
4267	Alsike (*Pan Amer.*) C. N. Merrill & Son, Bristol	A	97.50	A	90
4245	Alsike (*Fancy*) Merrimack County Farmers' Exchange, Concord	A	97	S	90
4375	Alsike (*Pan Amer.*) J. J. Moreau & Son, Manchester	A	97.50	A	90
4542	Alsike (*Pan Amer.*) Moulton & Clark, Lisbon	A	97	S	90
4483	Alsike (*White Mountain*) Muzzey & Hopkins, Lakeport	A	91.85	A	92
4363	Alsike (*Eureka*) F. W. Neal, Dover	A	98	A	90

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4273	Alsike (*Pine Tree, 21231*). . .. . O. A. Plummer, Tilton	S	98.4	S	94
4473	Alsike (*Ace*)..... Rand & Dearborn, Laconia	A	95	S	90
4454	Alsike (*3652*)..... .... Read-Esty Co., Farmington	A	95.75	A	95
4640	Alsike (*K & W*)..... A. L. Roberts, Conway	A	99	A	91
4494	Alsike (*Eureka*)..... ..... C. N. Roberts, Meredith	A	98.5	A	90
4586	Alsike ..... E. F. Royal, Colebrook	A	98	A	90
4570	Alsike (*Ace 21266*)..... Frank Smith Co., Lancaster	A	95.55	A	85
4526	Alsike (*Choice*)..... Somersworth Grain Co., Somersworth	A	95	A	85
4248	Alsike (*Ace, 21103*) ..... Thompson & Hoague Co., Concord	A	98.15	A	86.05
4249	Alsike (*Ace, 21191*)..... ..... Thompson & Hoague Co., Concord	A	96.1	S	94
4331	Aliske (*Ace*)..... John B. Varick Co., Manchester	A	95	A	85
4317	Alsike (*Prime*)..... W. A. Young, Exeter	87.8	89	S	88
4427	Barley (*Oderbrucker*)..... Ayers & Jenkins, Rochester	A	97.14	S	98
4392	Barley (*6-row*)..... ..... Bell Hardware Co., Derry	A	97	A	96
4433	Barley (*Oderbrucker*)..... Freeman Corson, Rochester	S	98.83	A	97
4304	Barley (*6-row*) ..... R. L. Costello, Portsmouth	A	97.5	S	98
4546	Barley (*White Mountain, 6-row*) Edson & Kinne, Littleton	A	99	A	96
4327	Barley (*Beardless*)..... ..... Hilliard & Kimball, Exeter	A	98	A	97
4630	Barley (*Monadnock 2-row*)..... Holbrook Grocery Co., Woodsville	A	96.72	A	97
4535	Barley (*Wisconsin, 6-row*)..... H. G. Holton, Lancaster	A	98.02	A	94
4589	Barley (*Wisconsin, 6-row, 719*)..... C. H. Jameson, Colebrook	A	98	A	94
4590	Barley (*Montana, 2-row, 717*)..... C. H. Jameson, Colebrook	S	99.74	A	97
4250	Barley (*2-row, 711*)..... Merrimack County Farmers' Exchange, Concord	A	93	A	88
4380	Barley (*6-row*)..... J. J. Moreau & Son, Manchester	A	98	A	90
4465	Barley (*XX*)..... ..... J. H. Morrill, Laconia	A	96	A	97
4478	Barley (*6-row, 1122*)..... J. H. Morrill, Laconia	A	98	A	92
4367	Barley (*2-row*)..... F. W. Neal, Dover	A	98	A	90
4495	Barley *Montana*. (*2-row*)..... C. N. Roberts, Meredith	A	98	A	90
4294	Barley (*Northwestern, 2-row*)..... S. A. Schurman & Son, Portsmouth	A	92	S	90.2

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4576	Barley (*6-row*) ..... Frank Smith Co., Lancaster	A	98	A	90
4258	Barley (*6-row, 01125*)..... Thompson & Hoague Co., Concord	A	98.5	S	97
4344	Barley (*6-row*)..... John B. Varick Co., Manchester	A	97	S	97
4345	Barley (*Beardless*) .... John B. Varick Co., Manchester	A	97	A	93
4511	Beets (*Mangel Wurzel Mammoth Long Red*)..... ... A. F. Burtt Co., Plymouth	A	98	S	90
4285	Beets (*Mangel Wurzel Mammoth Long Red*)..... Thompson & Hoague Co., Concord	S	99+	A	80
4286	Beets (*Mangel Wurzel, Golden Tankard*)..... Thompson & Hoague Co., Concord	S	99+	A	60
4287	Beets (*Magnel Wurzel, Imperial Sugar*..... ... Thompson & Hoague Co., Concord	99+	...	A	72
4352	Beets (*Mangel Wurzel, White French Sugar*)..... John B. Varick Co., Manchester	99	...	S	74
4398	Buckwheat (*Japanese, 7618*)..... Manchester Hardware Co., Manchester	A	98.4	A	95
4244	Buckwheat (*Japanese, 0764*) ..... Merrimack County Farmers' Exchange, Concord	S	99.36	S	95
4480	Buckwheat (*Japanese*)..... J. H. Morrell, Laconia	A	99	A	96
4521	Buckwheat (*Japanese*) ..... J. E. Read & Son, Ashland	A	98	A	90
4296	Buckwheat (*Japanese*)..... S. A. Schurman & Son, Portsmouth	A	98	A	97
4337	Buckwheat (*Japanese*)..... John B. Varick Co., Manchester	A	99	S	95
4504	Canada Field Peas (*Fancy*). ..... Chase Grain Co., Plymouth	A	98	A	90
4631	Canada Field Peas..... Holbrook Grocery Co., Woodsville	S	99.6	A	97
4582	Canada Field Peas (*57677*)..... ..... C. H. Jameson, Colebrook	A	99.5	S	98
4252	Canada Field Peas (*Fancy, 08519*) .... Merrimack County Farmers' Exchange, Concord	S	99.5	A	85
4541	Canada Field Peas..... ..... Moulton & Clark, Lisbon	A	98	A	90
4633	Canada Field Peas..... C. J. O'Neal, Woodsville	A	98.35	A	90
4295	Canada Field Peas (*Emerson*)..... S. A. Schurman & Son, Portsmouth	A	98	A	98
4649	Canada Field Peas (*08523*)..... J. H. Seavey, Dover	S	99.5	A	91
4355	Canada Field Peas ..... John B. Varick Co., Manchester	A	96	A	98
4316	Canada Field Peas..... W. A. Young, Exeter	A	98	A	90

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4428	Corn (*Imperial Leaming*) ... . Ayers & Jenkins, Rochester	S	99.82	S	96
4434	Corn (*Early Wonder*).. .... Freeman Corson, Rochester	S	99.66	A	91
4612	Corn (*Sanford White*).... . ..... C. W. Hildreth & Son, Lebanon	A	98	A	90
4613	Corn (*Excelsior*)..... C. W. Hildreth & Son, Lebanon	A	98	A	90
4614	Corn (*Eureka*) ..... C. W. Hildreth & Son, Lebanon	A	98	A	90
4321	Corn (*Leaming*) ..... Hilliard & Kimball, Exeter	A	98	A	90
4408	Corn (*Leaming*)..... ..... Manchester Hardware Co., Manchester	S	99.5	A	90
4381	Corn (*Canadian Flint*) ..... J. J. Moreau & Son, Manchester	A	98	A	90
4385	Corn (*Longfellow*)..... J. J. Moreau & Son, Manchester	A	98	A	90
4371	Corn (*Excelsior*)... .... F. W. Neal, Dover	S	99	A	90
4461	Corn (*Red Cob*)..... Pelletier Brothers, Farmington	A	98	A	90
4462	Corn (*Leaming*)..... Pelletier Brothers, Farmington	A	98	A	90
4648	Corn (*7244*)..... ..... J. H. Seavey, Dover	S	99.5	A	91
4239	Corn (*White Sanford*)..... Thompson & Hoague Co., Concord	S	99.5	A	90
4261	Corn (*Improved Leaming*)... ..... Thompson & Hoague Co., Concord	S	99.5	A	94
4593	Cow Peas (*0804*) ..... C. H. Jameson, Colebrook	S	99.5	A	80
4575	Crimson Clover. .... Frank Smith Co., Lancaster	A	97	A	80
4347	Crimson Clover ..... John B. Varick Co., Manchester	A	98	57.5	86
4635	Millet (*Hungarian, 474*)..... F. S. Allard & Co., Conway	A	99	A	90
4638	Millet (*Japanese, 4413*)..... F. S. Allard & Co., Conway	A	96	A	94
4387	Millet (*Hungarian*). .... Annis Grain & Lumber Co., Derry	A	97	A	85
4388	Millet (*Japanese*)..... Annis Grain & Lumber Co., Derry	A	96	A	88
4426	Millet (*Golden*)..... ... . Ayers & Jenkins, Rochester	A	99.22	S	97
4488	Millet (*Hungarian, XV*) ..... Belknap County Farmers' Exchange, Laconia	A	97	S	95
4389	Millet (*Japanese*) .... Bell Hardware Co., Derry	A	98	S	92
4390	Millet (*Hungarian,*) ..... Bell Hardware Co., Derry	A	97.5	A	86
4555	Millet (*Hungarian, X*)..... .. .... Bishop & Young, Lisbon	A	95	S	90
4522	Millet (*Japanese*) ..... O. A. Brown, Ashland	S	99.2	S	94
4523	Millet (*Hungarian*)..... O. A. Brown, Ashland	A	99	S	85

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4516	Millet, (*Japanese, Fancy*) ..... W. B. Brown, Ashland	S	98.2	S	95
4265	Millet (*Hungarian, Fancy*)..... Bryant & Lawrence, Tilton	A	98	84	...
4266	Millet (*Hungarian, Fancy*)..... Bryant & Lawrence, Tilton	A	98	A	80
4274	Millet, (*Japanese, Fancy*)..... Bryant & Lawrence, Tilton	S	98	A	80
4506	Millet (*Japanese, Breck*)..... .... Chase Grain Co. Plymouth	A	97	S	92
4508	Millet (*Hungarian, Breck*)..... Chase Grain Co., Plymouth	A	95	S	85
4303	Millet (*German, 13422*) ..... R. L. Costello, Portsmouth	S	98.95	61.5	95
4306	Millet (*Hungarian, Choice, 04712*).. R. L. Costello, Portsmouth	A	98.66	S	93
4599	Millet (*Japanese*)..... Daniels Grocery & Grain Co., Hudson	A	98	S	92
4440	Millet (*Hungarian, Choice*)..... Eugene C. Foss Co., Rochester	A	96	A	80
4323	Millet (*Hungarian*)..... Hilliard & Kimball, Exeter	A	99	A	85
4324	Millet (*Hungarian, 04724*) ..... Hilliard & Kimball, Exeter	A	99.3	A	85
4325	Millet (*Japanese, Fancy*) .... Hilliard & Kimball, Exeter	A	98.2	S	95
4628	Millet (*Hungarian, Monadnock*) . Holbrook Grocery Co., Woodsville	A	97	A	80
4629	Millet (*Hungarian, XX*)..... Holbrook Grocery Co., Woodsville	A	97	A	80
4486	Millet (*Japanese, Fancy*). ..... J. R. Jacobs, Meredith	A	98	41.5	90
4592	Millet (*Hungarian, 4711*)..... C. H. Jameson, Colebrook	A	99.58	A	91
4594	Millet (*Japanese, 4420*)..... C. H. Jameson, Colebrook	S	99.82	A	94
4356	Millet (*Japanese, Fancy*)..... C. L. Jenness Hardware Co., Dover	94.32	98	S	90
4403	Millet (*Hungarian, 479*)..... ... McQuestion & Lewis, Manchester	A	98.14	A	87
4404	Millet (*Japanese, 4417*)..... McQuestion & Lewis, Manchester	A	99.01	A	94
4242	Millet (*Hungarian, Whitney*)..... Merrimack County Farmers' Exchange, Concord	S	98	A	90
4243	Millet (*Hungarian, Fancy*)..... Merrimack County Farmers' Exchange, Concord	A	98	A	88
4257	Millet (*Golden, 467*). ... . Merrimack County Farmers' Exchange, Concord	A	99.47	A	88
4383	Millet (*Hungarian*) ... . J. J. Moreau & Son, Manchester	A	98	72.5	90
4384	Millet (*Japanese*)..... J. J. Moreau & Son, Manchester	A	98	A	90
4479	Millet (*Japanese, Fancy*)..... J. H. Morrill, Laconia	85.7	95	A	90
4539	Millet (*Japanese*) .... Moulton & Clark, Lisbon	A	98	A	90

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4368	Millet (*Japanese, Fancy*)..... F. W. Neal, Dover	A	95	A	90
4369	Millet *Hungarian*..... ..... F. W. Neal, Dover	A	98	78.5	90
4459	Millet (*Hungarian, K & W*)..... Pelletier Brothers, Farmington	A	99	A	93
4460	Millet (*Japanese, K & W*)..... Pelletier Brothers, Farmington	A	92	A	87
4595	Millet (*Hungarian*).... ..... W. R. Peterson, Nashua	A	98	A	80
4596	Millet (*Japanese*) ..... W. R. Peterson, Nashua	A	97	A	80
4492	Millet (*Japanese*)..... J. P. Pitman & Co., Laconia	A	98.6	S	93
4275	Millet (*Hungarian, Choice*) ..... O. A. Plummer, Tilton	A	99.3	S	81
4276	Millet (*Japanese, Choice*)..... O. A. Plummer, Tilton	A	99	A	85
4452	Millet (*Hungarian, 3731*)..... Read-Esty Co., Farmington	A	98.98	S	90
4453	Millet (*Japanese, 3665*)..... Read-Esty Co., Farmington	A	94.25	S	95
4537	Millet (*Japanese*) .... I. C. Richardson, Littleton	A	95	A	90
4474	Millet (*Hungarian, M. Gold*)... .. H. C. Sanborn, Laconia	A	97	A	85
4476	Millet (*Japanese*)..... H. C. Sanborn, Laconia	97.4	99	A	90
4291	Millet (*Japanese, Conklin's Pure Quill*)..... S. A. Schurman & Son, Portsmouth	A	98	S	90
4292	Millet (*Hungarian, 478*)..... S. A. Schurman & Son, Portsmouth	A	99.14	A	86
4569	Millet (*Japanese, 4419*)..... Frank Smith Co., Lancaster	A	94.20	A	94
4572	Millet (*Hungarian, 479*)..... Frank Smith Co., Lancaster	A	94.14	A	87
4527	Millet (*Hungarian, K & W*)..... Somersworth Grain Co., Somersworth	A	98	A	90
4279	Millet (*Hungarian, Choice*)..... C. P. Stevens & Son, Franklin	90.1	..	85	..
4280	Millet (*Japanese, Fancy*)..... C. P. Stevens & Son, Franklin	A	95	S	90
4247	Millet (*Japanese, 447*)..... ..... Thompson & Hoague Co., Concord	A	99.13	A	90
4259	Millet (*Hungarian, 04717*)..... Thompson & Hoague Co., Concord	A	99.14	S	85
4335	Millet (*Japanese*) ..... . John B. Varick Co., Manchester	S	99	S	94
4348	Millet (*Golden*)..... John B. Varick Co., Manchester	A	98	70.5	88
4446	Millet (*Hungarian, 23048*)..... E. T. Willson, Farmington	S	99.30	A	75
4456	Millet (*Japanese, Pure Quill Fancy*) E. T. Willson, Farmington	A	98.3	S	92
4423	Oats (*Northern Wonder*) ..... Ayers & Jenkins, Rochester	A	98.08	A	93
4391	Oats (*Abundance*)..... . ..... Bell Hardware Co., Derry	A	98	A	93

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4517	Oats (*White Mtn., Extra Fancy*).... W. B. Brown, Ashland	A	99	S	97
4359	Oats (*Ti-O-Ga*)..... F. W. Bunker, Dover	S	99	S	97
4509	Oats (*Elwood*)..... ..... Chase Grain Co., Plymouth	S	99.54	S	98
4302	Oats (*Swedish Select*)..... R. L. Costello, Plymouth	A	98	S	96
4469	Oats (*Northern Wonder*)..... W. G. Crain, Lakeport	S	99.65	S	97
4545	Oats (*Pennant Brand*)..... Edson & Kinne, Littleton	A	99.5	98	..
4439	Oats (*Selected*)..... .... Eugene C. Foss Co., Rochester	A	98	A	90
4621	Oats (*Pennant Brand*)..... A. H. Hill, Lebanon	S	99.5	94	..
4573	Oats (*Michigan White*)..... C. H. Jameson, Colebrook	95.55	..	98	..
4448	Oats (*Fancy*)..... J. Jones & Son, Alton	A	99	S	97
4412	Oats (*Park & Pollard*)..... Manchester Hardware Co., Manchester	97.81	..	98	..
4468	Oats (*Pennant Brand*)..... Meredith Grain Co., Meredith	S	99.5	98	..
4253	Oats (*733*)..... Merrimack County Farmers' Exchange, Concord	S	99.05	S	96
4281	Oats (*Excelsior*)..... Merrimack County Farmers' Exchange, Concord	A	98	92	..
4378	Oats (*Excelsior*)..... J. J. Moreau & Son, Manchester	A	98	A	90
4289	Oats (*65962*)..... J. H. Morrill, Laconia	99.87	..	90.5	..
4464	Oats (*Cox Company*)..... J. H. Morrill, Laconia	98.52	..	97	..
4543	Oats (*Michigan*)..... Moulton & Clark, Lisbon	98.1	..	98	..
4366	Oats (*Northern Wonder*)..... ..... F. W. Neal, Dover	A	99.65	S	97
4606	Oats (*Michigan*)..... W. F. Peel, Nashua	97.3	..	93	..
4472	Oats (*Swedish*)..... Rand & Dearborn, Laconia	A	98	A	96
4520	Oats (*Michigan*) ..... J. E. Read & Son, Ashland	97.52	..	94	..
4496	Oats (*Excelsior*)..... C. N. Roberts, Meredith	A	98	A	90
4293	Oats (*Welcome*)..... S. A. Schurman & Son, Portsmouth	A	98	A	93
4578	Oats (*Native*).. .... Frank Smith Co., Lancaster	98.30	..	97	..
4577	Oats (*Swedish Select*)..... F. B. Spaulding Co., Lancaster	A	99	S	98
4422	Oats (*White*) .... F. W. Stock & Son, Rochester	98.03	..	93	..
4463	Oats ..... Strafford Co. Grain Mill, Rochester	99.23	..	97	..
4260	Oats (*Swedish, 731*)..... Thompson & Hoague Co., Concord	A	98.65	S	97
4346	Oats (*Swedish*)..... John B. Varick Co., Manchester	A	98	S	96

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4315	Oats (*Abundance*)..... ..... W. A. Young, Exeter	A	98	A	93
4637	Red Clover ..... F. S. Allard & Co., Conway	A	98	A	96
4425	Red Clover (*Crown*)..... .... Ayers & Jenkins, Rochester	A	99.35	S	98
4394	Red Clover (*Pan American*)..... Bell Hardware Co., Derry	A	98.5	A	90
4431	Red Clover (*24567*)..... Berry & Shorey, Rochester	A	99	S	97
4553	Red Clover (*19884*)..... Bishop & Young, Lisbon	A	95.45	A	90
4513	Red Clover (*Extra Fancy WhiteMt.*) A. F. Burtt Co., Plymouth	A	99.5	A	94
4436	Red Clover (*Crown*)..... Freeman Corson, Rochester	98.6	99.35	A	90
4308	Red Clover (*Ace, 73316*)..... R. L. Costello, Portsmouth	A	97	S	85
4600	Red Clover .... Daniels Groc. & Grain Co. Hudson	A	97	A	85
4550	Red Clover (*Fancy XX*).. ..... Edson & Kinne, Littleton	A	95.08	A	90
4561	Red Clover (*XXV*)..... .... N. G. English, Lisbon	A	97.3	A	92
4444	Red Clover (*Pan American*)..... Eugene C. Foss Co., Rochester	A	98	A	90
4482	Red Clover ..... S. A. Garland & Son, Lakeport	A	98	A	85
4529	Red Clover (*Pan American*)..... V. P. Hersey & Co., Somersworth	A	97	A	90
4615	Red Clover (*Mammoth*) ..... C. W. Hildreth & Son, Lebanon	A	98.5	A	90
4326	Red Clover (*Medium, 34742*)..... Hilliard & Kimball, Exeter	A	98.04	A	94
4328	Red Clover ..... Hilliard & Kimball, Exeter	A	98	A	94
4534	Red Clover (*Medium, 24847*)..... H. G. Holton, Lancaster	A	98.2	A	94
4533	Red Clover (*24742*)..... ..... Jackson & Durgin Co., Littleton	A	98.04	A	94
4583	Red Clover (*Medium, 24884*)..... ... C. H. Jameson, Colebrook	A	98 52	A	92
4449	Red Clover (*Mammoth*)..... J. Jones & Son, Alton	A	98	A	90
4451	Red Clover (*Pan American*)..... J. Jones & Son, Alton	A	98	A	80
4610	Red Clover (*Medium*) ..... Lewis Bros., Lebanon	S	99.5	A	94
4399	Red Clover (*24188*)..... Manchester Hdw. Co., Manchester	A	98	A	85
4401	Red Clover (*Medium, 24770*)..... McQuestion & Lewis Co., Manchester	S	99 02	A	96
4268	Red Clover (*Pan American*)..... C. N. Merrill, Bristol	S	98.5	A	90
4251	Red Clover (*Mammoth*)..... Merrimack County Farmers' Exchange, Concord	A	98	A	97
4374	Red Clover (*Pan American*)..... J. J. Moreau & Son, Manchester	A	98.5	A	90
4544	Red Clover (*Pan American*)..... Moulton & Clark, Lisbon	A	98.5	A	90
4362	Red Clover (*Eureka*)..... F. W. Neal, Dover	A	99.5	A	90

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4632	Red Clover (*Liberty, 8840*) C. J. O'Neal, Woodsville	A	97.71	S	90
4564	Red Clover (*Pan American*) Fred Parker, Lisbon	A	98.5	A	90
4602	Red Clover (*Medium*) F. W. Peel, Nashua	98.44	..	96	..
4457	Red Clover (*Ace, Medium, 24617*) Pelletier Bros., Farmington	A	98	97	..
4277	Red Clover (*Medium*) O. A. Plummer, Tilton	S	99	A	94
4455	Red Clover Read-Esty Co., Farmington	98.02	..	96	..
4641	Red Clover (*K & W*) A. L. Roberts, Conway	A	99	S	94
4497	Red Clover (*Eureka*) C. N. Roberts, Meredith	S	99.5	A	90
4584	Red Clover (*Medium, 24567*) E. F. Royal, Colebrook	A	99	S	97
4297	Red Clover (*661*) S. A. Schurman & Son, Portsmouth	A	99	A	90
4568	Red Clover (*24796*) Frank Smith Co., Lancaster	A	98	A	95
4263	Red Clover (*24561*) Thompson & Hoague Co., Concord	A	98.58	S	98
4339	Red Clover (*Medium*) John B. Varick Co., Manchester	A	98	S	94
4318	Red Clover (*Prime*) W. A. Young, Exeter	S	99	S	95
4636	Red Top (*Fancy*) F. S. Allard & Co., Conway	S	91	A	90
4429	Red Top (*Imperial*) Ayers & Jenkins, Rochester	A	92.5	S	94
4601	Red Top (*No. 1*) Daniels Groc. & Grain Co., Hudson	A	90	S	90
4322	Red Top Hilliard & Kimball, Exeter	A	90	S	90
4364	Red Top (*Eureka*) C. L. Jenness Hdw. Co., Dover	A	92	S	90
4607	Red Top (*Fancy No.1*) W. F. Peel, Nashua	A	90	A	90
4642	Red Top (*R. 2507, K & W*) A. L. Roberts, Conway	A	90	S	92
4567	Red Top (*Fancy, 30101*) Frank Smith Co., Lancaster	A	89	A	86
4559	Red Top (*Imperial*) Webster & Williams, Lisbon	A	96	72	90
4644	Red Top (*Rock Fancy, 3075*) O. L. & C. A. White, Mountainview	A	91	A	90
4489	Spring Rye (*Monadnock, 7418*) Belknap Co. Farmers' Ex., Laconia	A	98	A	92
4407	Spring Rye (*7415*) Manchester Hdw. Co., Manchester	A	90	A	85
4254	Spring Rye (*Rosen, 7417*) Merrimack Co. Farmers' Ex., Concord	A	98.48	A	85
4376	Spring Rye J. J. Moreau & Son, Manchester	A	98	A	85
4604	Spring Rye (*7414*) W. F. Peel, Nashua	A	98	A	90
4579	Spring Rye Frank Smith Co., Lancaster	A	98	A	90
4341	Spring Rye John B. Varick Co., Manchester	A	96	A	92

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4241	Soy Beans (*Black Eyebrow, 8410*)... Merrimack Co. Farmers' Exchange, Concord	s	99.5	A	85
4349	Soy Beans (*Medium Green*). ..... John B. Varick Co., Manchester	A	95	29.5	91
4350	Sudan Grass..... ..... John B. Varick Co., Manchester	A	96	A	65
4597	Timothy (*Colonial*) ..... W. W. Baker, Hudson	98.25	..	92	..
4396	Timothy (*Pan American*) .... Bell Hardware Co., Derry	s	99.5	A	90
4432	Timothy (*662148*) .... Berry & Shorey, Rochester	s	99.6	s	94
4556	Timothy (*XX*)..... Bishop & Young, Lisbon	A	98	s	90
4524	Timothy (*Pine Tree, 60160*)..... O. A. Brown, Ashland	s	99.65	s	95
4500	Timothy (*White Mt., Extra Fancy*) W. B. Brown, Ashland	s	99.8	s	96
4503	Timothy (*Pine Tree, 661198*). ..... W. B. Brown, Ashland	s	99.6	s	94
4515	Timothy (*White Mt., Extra Fancy*) A. F. Burtt Co., Plymouth	s	99.8	s	96
4505	Timothy (*Beech*)..... ..... Chase Grain Co., Plymouth	A	98	s	97
4309	Timothy (*664321*) ..... R. L. Costello, Portsmouth	A	99.6	s	95
4470	Timothy (*King*)..... W. G. Crain, Lakeport	s	99.6	A	90
4598	Timothy (*Gem*) ..... Daniels Grocery & Grain Co., Hudson	A	98	A	93
4531	Timothy (*White Mountain*)..... Edson & Kinne, Littleton	s	99.8	s	96
4551	Timothy (*Gold Medal*)..... Edson & Kinne, Littleton	A	99.7	A	94
4552	Timothy (*XX*) .. .. Edson & Kinne, Littleton	A	98	s	90
4563	Timothy (*Special*) ..... N. G. English, Lisbon	A	98	A	90
4445	Timothy (*Pan American*)..... Eugene C. Foss Co., Rochester	s	99	A	90
4481	Timothy (*Brock's 66690*)..... S. A. Garland & Sons, Lakeport	A	98	s	95
4639	Timothy (*Durham 60160*)..... Perry Gould Co., Conway	s	99.65	s	95
4538	Timothy (*Pan American*)..... .... V. P. Hersey & Co., Somersworth	s	99.5	A	90
4310	Timothy (*Pine Tree, 662190*)..... Hilliard & Kimball, Exeter	s	99.6	A	94
4329	Timothy (*Pine Tree*)..... Hilliard & Kimball, Exeter	A	99.5	s	94
4622	Timothy (*Monadnock*)..... Holbrook Grocery Co., Woodsville	A	99	A	94
4623	Timothy (*XXX*) ..... Holbrook Grocery Co., Woodsville	A	99	A	93
4624	Timothy (XX)..... ..... Holbrook Grocery Co., Woodsville	A	98	A	90
4625	Timothy and Alsike (*60074*) ..... Holbrook Grocery Co., Woodsville	*73.5 †19.4	.. ..	A A	90 89
4536	Timothy (*Pine Tree, 60445*)..... .... H. G. Holton, Lancaster	s	99.6	A	94
4532	Timothy (*Varick's Reliable*)..... Jackson & Durgin Co., Littleton	A	99.6	s	94

A—Above. s—Satisfactory. * Timothy. † Alsike.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4580	Timothy (*Pine Tree, 60363*) ..... C. H. Jameson, Colebrook	A	99.6	S	96
4450	Timothy (*Pan American*)..... J. Jones & Son, Alton	S	99.5	A	90
4611	Timothy (*Pine Tree*)..... Lewis Bros., Lebanon	S	99.6	S	95
4397	Timothy (*Pine Tree, 662130*)..... Manchester Hdw. Co., Manchester	S	99.6	S	94
4400	Timothy (*Pine Tree, 60240*)..... McQuestion & Lewis Co., Manchester	S	99.6	A	94
4405	Timothy (*661697*)..... ..... McQuestion & Lewis Co., Manchester	S	99.6	S	94
4270	Timothy (*Pan American, 765*)..... C. N. Merrill & Son, Bristol	A	99 5	S	90
4255	Timothy (*Pine Tree, 662215*)..... Merrimack County Farmers' Exchange, Concord	A	99.6	S	94
4372	Timothy (*Pan American*)..... J. J. Moreau & Son, Manchester	S	99.5	A	90
4540	Timothy (*Pan American*) ..... Moulton & Clark, Lisbon	A	99.5	A	90
4360	Timothy (*Pan American*) ..... F. W. Neal, Dover	S	99.5	A	90
4386	Timothy (*Imperator*)..... .... W. F. Neal, Derry	S	99	A	90
4626	Timothy (*Liberty*)..... ..... C. J. O'Neal, Woodsville	A	99.5	A	94
4565	Timothy (*Pan American*)..... Fred Parker, Lisbon	A	98	A	90
4603	Timothy (*Bay State*) .... W. F. Peel, Nashua	A	99 5	A	95
4490	Timothy (*Durham*) ..... J. P. Putnam & Co., Laconia	S	99.5	S	94
4272	Timothy (*Pine Tree, 662229*) ..... O. A. Plummer, Tilton	S	99.6	A	94
4471	Timothy (*Pine Tree*)..... Rand & Dearborn, Laconia	A	99.6	S	95
4643	Timothy (*K & W*)..... A. L. Roberts, Conway	A	98	A	90
4499	Timothy (*Gold Medal*)..... ..... C. N. Roberts, Meredith	S	99.75	S	94
4585	Timothy (*Pine Tree, 662148*) ..... E. F. Royal, Colebrook	A	99.6	S	94
4475	Timothy (*60397*)..... H. C. Sanborn, Laconia	S	99.5	S	94
4290	Timothy (*23453*)..... ..... S. A. Schurman & Son. Portsmouth	S	98	S	90
4299	Timothy (*Pine Tree, 662252*)..... S. A. Schurman & Son. Portsmouth	S	99.6	A	94
4300	Timothy (*Pine Tree, 661395*) ..... S. A. Schurman & Son, Portsmouth	A	99.65	A	93
4650	Timothy (*Pine Tree, 662082*)..... J. H. Seavey, Dover	A	99.6	A	94
4571	Timothy (*Pine Tree, 60161*)..... Frank Smith Co., Lancaster	S	99.6	S	94
4528	Timothy (66287)..... Somersworth Grain Co., Somersworth	S	99.6	S	95
4262	Timothy (*Pine Tree, 662213*) ..... Thompson & Hoague Co., Concord	S	99.6	S	94
4338	Timothy (*Durham*)..... John B. Varick Co., Manchester	S	99.5	S	94

A—Above. S—Satisfactory.

SEED EXAMINATION, 1923—*Continued*

Sample No.	Kind of Seed, Brand, Name and Address of Dealer	Purity		Germination	
		F'nd	Guaranteed	F'nd	Guaranteed
4560	Timothy (*Durham*) Webster & Williams, Lisbon	S	99.6	S	97
4645	Timothy (*Breck*) O. L. & C. A. White, Mountainview	A	97	S	95
4447	Timothy (*King*) E. T. Willson, Farmington	A	99.6	A	92
4320	Timothy W. A. Young, Exeter	A	97.7	S	93
4510	Turnip (*Rutabaga, Am. Purple Top*) A. F. Burtt Co., Plymouth	A	98	S	92
4301	Turnip, (*Rutabaga, Imp. American*) R. L. Costello, Portsmouth	A	97	A	80
4283	Turnip (*Rutabaga, Imp. Am. Purple Top*) Thompson & Hoague Co., Concord	98.49	..	76	96
4284	Turnip (*Rutabaga, White French*) Thompson & Hoague Co., Concord	98.56	..	72	88
4351	Turnip (*Rutabaga, St. Andrews*) John B. Varick Co., Manchester	99	..	A	96
4313	Turnip (*Rutabaga, St. Andrews*) W. A. Young, Exeter	A	92	A	85
4354	Vetch (*Spring*) John B. Varick Co., Manchester	A	98	A	84
4437	Wheat (*Spring*) Eugene C. Foss Co., Rochester	99.22	..	99	..
4574	Wheat (*Spring*) C. H. Jameson, Colebrook	S	99.7	A	96
4377	Wheat (*Spring*) J. J. Moreau & Son., Manchester	A	98	A	90
4518	Wheat (*Marquis*) J. E. Read & Son, Ashland	A	98	A	90
4278	Wheat (*Spring, 682*) C. P. Stevens & Son, Franklin	A	99	A	96
4342	Wheat (*Spring*) John B. Varick Co., Manchester	A	99	A	97
4397	White Clover (*26160*) R. L. Costello, Portsmouth	A	93	76.5	95
4438	White Clover (*Choice*) Eugene C. Foss Co., Rochester	89.5	93	A	85
4357	White Clover (*Choice*) C. L. Jenness Hdw. Co., Dover	A	93	A	80
4493	White Clover C. P. Pittman & Co., Laconia	A	93	S	95
4340	White Clover (*Fancy*) John B. Varick Co., Manchester	A	93	S	95

A—Above. S—Satisfactory.

TABLE SHOWING RESULTS OF TESTS AND EXAMINATION OF SAMPLES OF SEEDS SUBMITTED BY THE COMMISSIONER OF AGRICULTURE FROM JULY 1, 1922, TO JUNE 30, 1923

Kind of Seed	Number	Purity				Germination			
		Highest Per cent.	Lowest Per cent.	Average Per cent.	Standard	Highest Per cent.	Lowest Per cent.	Average Per cent.	Standard
Alfalfa	3	99.5	98.8	99.1	98	95	91	93.3	85-90
Alsike	39	99.99	87.8	97.6	95	97	83	92.7	75-80
Barley	21	99.98	94.76	98.4	99	99	90	96.6	90-95
Buckwheat	6	99.52	98.56	99	99	99	95	96.7	90-95
Canada Peas	10	100	98.5	99.1	99	99	94	97.7	93-98
Corn	15	99.80	99	99.1	99	99	95	96.4	90-95
Millet	66	99.99	85.70	98.2	99	98	41.5	89.4	85-90
Oats	33	100	97.30	98.8	99	99	90.5	95.2	90-95
Red Clover	44	99.99	95.26	98.7	98	99	83	95.4	85-90
Red Top	10	97.20	90.10	92.6	95	97	72	89.1	75-80
Rye	7	99.94	91.53	97.5	99	98	91	94.4	90-95
Timothy	61	99.99	97.45	99.3	98	97	86	93.2	85-90
Wheat	6	99.99	98.22	99.4	99	99	97	98.3	90-95
White Clover	5	98.35	89.5	95.9	95	94	76.5	86.4	75-80
Miscellaneous	19								
Total	345								

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